



A new scarab species, *Aphodius gissaricus* (Coleoptera: Scarabaeidae: Aphodiinae), from the Pamir-Alay Mountains in Tajikistan

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The fauna of the aphodiines of Pamir-Alay Mountains is relatively well known and is not very rich in comparison to the adjacent territories of lowland Middle Asia (Medvedev & Lopatin 1961, Protsenko 1968, Nikolajev 1987). For example, some 30 species of *Aphodius* Hellwig are known from Tajikistan (Medvedev & Lopatin 1961) and most of them are widely distributed in Irano-Turanian biogeographic region and in the Palaearctic. However endemism is rather high: none of these species occur outside the Palaearctic (except for recent introductions of a few species to the Nearctic and Australian Realms) and many are limited to deserts or single mountain systems.

Recently we had the opportunity to examine a few *Aphodius* specimens from the collection of David Král, currently housed in the National Museum of Natural History in Prague (NMPC), which apparently belong to Middle Asian mountain species. These specimens originated from two high and middle altitude localities in Pamir-Alay Mountains. They share characters of a few nominal *Aphodius* subgenera and could not be identified as any of the species known from Middle and Central Asia. Comparisons of these specimens with the extensive material of Palaearctic *Aphodius* from the collection of Zoological Institute of Russian Academy of Sciences (ZIN), revealed one additional specimen of this species.

The new species is similar to *Aphodius* (*Melinopterus*) *scuticollis* Semenov and both species have characters that could place them either in the subgenus *Chilothorax* Motschulsky or *Melinopterus* Mulsant. The new species shares some diagnostic characters with the subgenera *Melinopterus* (mesotibiae and metatibiae with adjacent apical setae distinctly unequal in length) and *Chilothorax* (relatively dense punctation on head and pronotum in males, sparsely setose elytra in males, similar shape of the parameres). The elytral pattern of the new species varies from that typical of *Melinopterus* species (single elongated dark macula occupying most of each elytron) to that typical of some *Chilothorax* species (species-group *A. grafi* with two more-or-less distinct longitudinal or oblique stripes mainly on elytral intervals 3–4 and 6–7). This is more evidence that elytral pattern, due to its variability, is a weak basis for subgenera delimitation in *Aphodius*.

The superspecific classification of the genus *Aphodius* is beyond the scope of this paper. We provisionally place the new species in the subgenus *Melinopterus* since the characters of this subgenus are more pronounced in the new species and it is easier to modify existing diagnostic keys of *Melinopterus* to accommodate it. Examination of mouth parts, especially the epipharynx, of the new species did not provide clue about its taxonomic position, because epipharynxes of a number of subgenera (*Melinopterus*, *Chilothorax*, *Nobius*, *Agolius* and other apparently related taxa) are similar.

Habitus images were taken with a Leica MZ9.5 stereo microscope from dry specimens. Partially focused, serial images were combined in Helicon Focus software (Helicon Soft Ltd.) to produce completely focused images. Aedeagus images were taken with the same microscope from specimens in glycerol. The distribution map was generated with ArcGIS software (ESRI Ltd.). Coordinates of the localities were taken from the National Geospatial-Intelligence Agency (2011).

Aphodius (*Melinopterus*) *gissaricus* Akhmetova & Frolov, new species

Figs 1–3, 5, 7, 9

Type material. Holotype, male with the label “Tadzhikistan 1984 Hissar mts., ca 3300m ANZOB pass, 8.8 David Král lgt.” (NMPC). Eleven paratypes: 7 males with the same data as the holotype (5 specimens – NMPC, 2 specimens – ZIN); 3 males, “Asia c. Tadjikistan USSR 5.4.1986 Alaj – Romit 2000 m T. Růžička lgt.” (2 specimens – NMPC, 1 specimen –